AUTODOC CLUB

How to change ball joint on a car – replacement tutorial

VIDEO TUTORIAL



REPLACING A BALL JOINT

TO REPLACE A BALL JOINT, YOU MAY NEED:



- a new part
- a toolkit
- a cleaning agent
- WD-40 spray
- a torque wrench
- snap ring pliers
- a ball joint puller
- a special C-frame tool for pressing out ball joints and a set of sleeves

BUY TOOLS

Please note!

- Ball joints are spherical bearings that connect the suspension arms to other suspension components
- Over time, the insert that surrounds the ball stud wears out, which results in free play
- Free play is indicated by incorrect operation of the suspension and abnormal noises when driving over bumps
- Ball joint failure can be caused by a leaky dust boot
- Dirt and moisture getting inside cause abrasion of the mating components

1 A car lift or jack can be used to access the component



2 When using a jack, be sure to secure the car with jack stands and wheel chocks



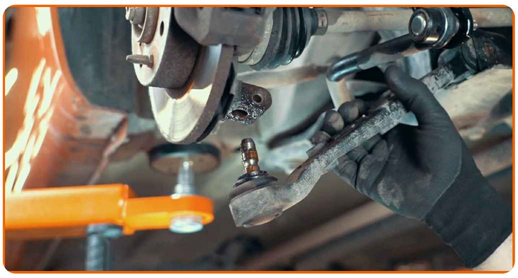
Ball joints differ depending on the type of attachment and can:

- Be press-fitted in their mounting seat
- Be secured with threaded fasteners
- Come assembled with the arm

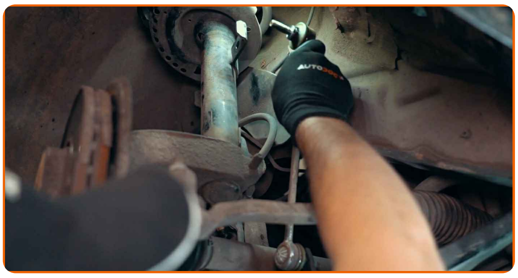
3 Familiarise yourself with the design of the ball joint and its fasteners



4 Removal of a ball joint may require dismounting the part in which it is press-fitted



5 Detach any components obstructing access to the ball joint



6 To remove the ball joint, you should disconnect it from the steering knuckle



7 In most cases, when working with a steering knuckle, the CV axle should be disengaged



Important!

- This will prevent the CV joints losing tightness or the CV axle being detached from the gearbox

8 Clean the working area



9 Remove the fasteners that connect the ball joint to the steering knuckle



Please note!

- Ball joints with a cylindrical stud are secured in the knuckle by a clamping connection
- Components with a tapered stud fit snugly in the mounting seat in the knuckle and are secured by a nut

10 Release the clamp and remove the ball stud from its seat



Be careful:

- Suspension components may be loaded by the bushings or their own weight

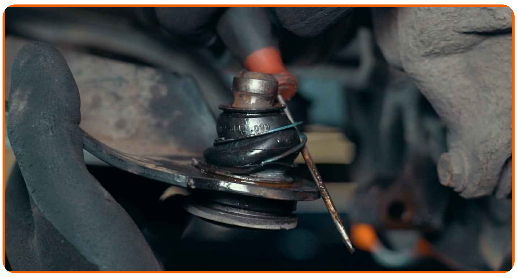
11 The dust boot needs to be removed before dismounting the joint



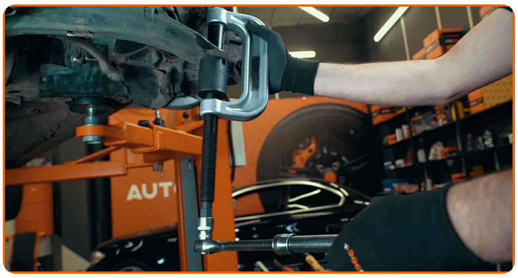
Please note!

- Since the CV axle was detached, the steering knuckle can be moved freely
- This allows you to displace it relative to the ball joint without the risk of disconnecting the half axle from the gearbox
- Underneath is the area of the joint's body that should be acted upon when pressing out the part

12 Remove the clips and dust boot



13 Apply force uniformly over the entire upper surface of the part to avoid damaging the mounting hole



It is important to choose the right sleeves

- The lower one must have a diameter that matches the resting surface on the arm and be larger than the ball joint
- The diameter of the upper one should match the size of the joint's body
- If you have sleeves of different diameters at your disposal, you can use a press or a two- or three-jaw puller

14 Clean the mounting seat



15 Carefully pry up the clip and remove the rubber element



16 Cover the joint with masking tape to prevent it from getting dirty



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Select a sleeve with an appropriate diameter



AUTODOC recommends:

- When pressing in the ball joint, apply force on its body, i.e. on its circular edge
- The central part is the cover of the ball joint insert and is not load-bearing
- Avoid misalignment of the ball joint and suspension arm
- They must be kept parallel during press-fitting

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Reinstall the dust boot



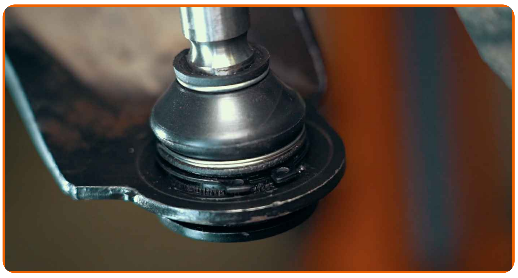
Caution!

- Be careful not to damage the dust boot with the tool or clips

19 Fit the snap ring



20 Make sure that all components are correctly installed



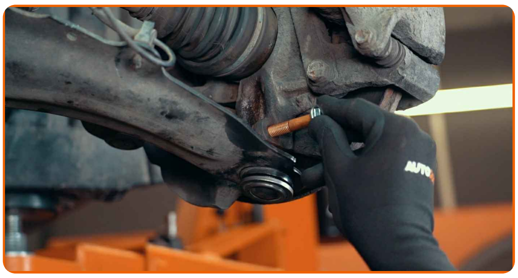
21 Clean all fasteners



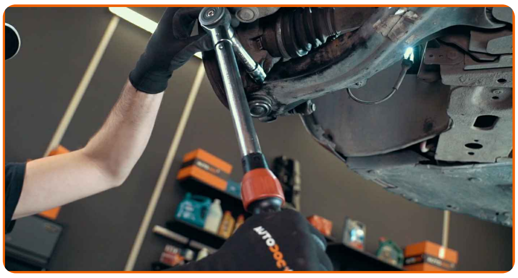
22 Treat the ball stud mounting seat with an anti-corrosion agent



23 Install new fasteners



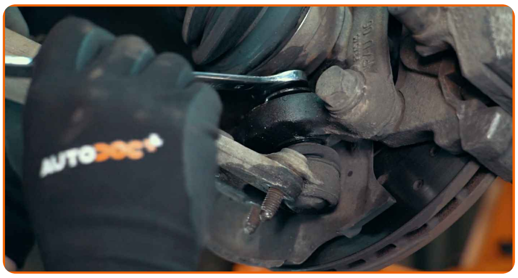
24 Tighten the fasteners to the manufacturer's recommended torque



Please note!

- Replacing a ball joint with a threaded connection is much easier

25 Check that the upper nut of the ball joint rotates easily



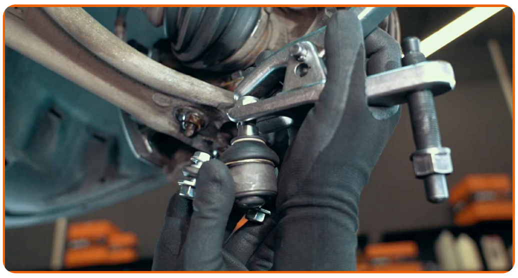
26 If the fastener is stuck, free it up before pressing the ball stud out of the steering knuckle



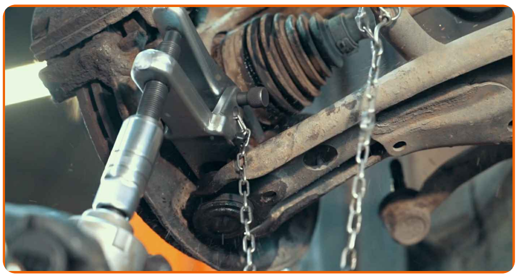
Be careful!

- Otherwise, the nut will be turned together with the stud, making the fastener difficult to remove

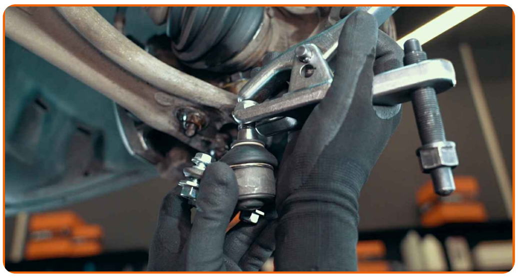
27 Press the ball stud out of the steering knuckle



28 The ball joint can be removed with a ball joint puller. The lower jaw of the tool should be placed under a component, for example the steering knuckle, for support.



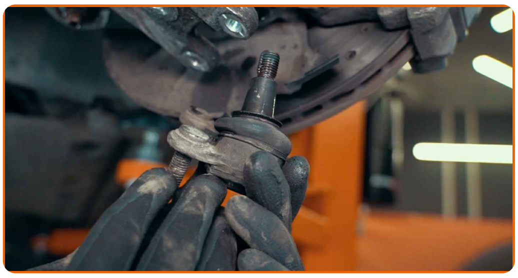
29 Rest the upper jaw of the tool against the ball stud and press the joint out of its mounting seat



30 If using a puller is impossible due to lack of space, select another suitable tool



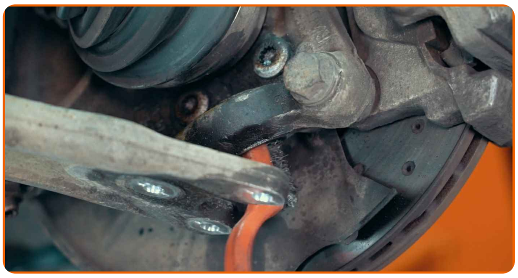
31 Unscrew and remove the nut, lower the arm and remove the faulty ball joint



32 Clean the mounting seats, paying particular attention to the tapered hole in the knuckle



33 Traces of corrosion or dirt will prevent the new component from fitting properly



Please note!

- The parts may differ in the mounting side and angle or in the size of the holes

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To prevent the nut from spinning together with the ball stud in the ball joint housing, a point is provided in the stud to lock it in place. If it cannot be accessed, prop up the ball joint body using a transmission jack or jack with extension



Important!

- This will press the ball stud mounting surface tightly to its seat
- The increased pressure in the contact area of the components will prevent the stud from rotating

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Make sure the tapered portion is fitted in the mounting seat and screw on the nut



Please note!

- In some cases, when removing the ball joint, the angle the steering knuckle is turned to might be important. This means that it is virtually impossible to dismount the part when the knuckle is in a certain position
- However, if you turn the steering knuckle in another direction, the joint can be removed without difficulty

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If the ball joints are fastened with rivets, these should be cut off and replaced with bolts



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